**Target Audience**

Current, potential allotment garden users, people interested in gardening and NParks.

**The Problem**

Greenhouse gases (GHG) like Carbon Dioxide are produced at every stage of food production – during transportation, packaging, and disposal. Singapore relies heavily on other countries for food. This, coupled with the food waste generated by Singaporeans consequently increase Singapore's GHG emissions significantly.

To reduce carbon emissions by reducing our reliance on imports, the Singapore Food Agency rolled out the “[Singapore 30 by 30](https://www.greenplan.gov.sg/key-focus-areas/key-targets)” plan to encourage Singaporeans to grow their own produce at home or in an allotment garden. However, having interviewed the Deputy Director of NParks, we learnt that the current balloting system for allotment gardens is inefficient. Consequently, fewer people are enticed to grow their own produce, impeding efforts toward increased local food production and ultimately our climate change goals.

**Our Solution**

Our web application, *OurGardenStory*, aims to provide users with a comprehensive solution to ballot for allotment gardens and manage their plants. This helps Singaporeans grow more food and play a part in combating climate change.

The main features of *OurGardenStory* are:

1. Ballot, pay, and track status for allotment garden application
2. Daily checklist to keep track of watering, fertilising, and soil treatment of plants, by considering the weather forecast and species of the plants
3. Dedicated tips for gardening and harvesting
4. Log historical records of plants grown and estimate harvest date

*OurGardenStory*’s backend will be a Java Spring Boot Application alongside React.js frontend framework, using REST API endpoints. We will be using a microservice solution architecture to optimise resources dynamically based on evolving usage patterns and functional requirements. The application will be containerized on Docker and deployed on AWS Elastic Beanstalk. Our database will utilise Amazon DynamoDB.

**Why is it needed?**

The process of balloting and onboarding of the allotment garden program is slow for NParks, and not transparent for the bidders. Bidders have voiced their concerns about the fairness of the balloting process as living in close proximity to allotment gardens does not entail a higher chance of success. NParks have also mentioned that their management of applicants and their information is manual and inefficient.

We can solve these issues through our solution, by automating the bidding process, facilitating payment and communication between NParks and the allotment gardeners. Our bidding algorithm considers the geolocation of allotment gardens in relation to the residential address of applicants. Also, educating people through *OurGardenStory* will build a greener community that promotes healthy gardening practices, especially for people that are inexperienced in gardening. Our solution will be impactful in helping Singapore be more self-reliant on food production and reduce GHG emissions.